

ADDITIONAL NOTES ON THE GENUS LIPPIA. V

Harold N. Moldenke

LIPPIA ALBA var. GLOBIFLORA (L'Hér.) Moldenke

Additional bibliography: Moldenke, *Phytologia* 38: 395—399 & 401—406. 1978.

Additional citations: ARGENTINA: Salta: Job 650 (N), 748 (N); Ragonese s.n. [Herb. Mus. Argent. Cienc. Nat. 19776] (N); Ruiz Huidobro 3078 (N), 3116 (N), 3230 (N), 3309 (N), 3343 (N), 3387 (N); Venturi s.n. [Herb. Mus. Argent. Cienc. Nat. 23767] (N). San Juan: Cuezzo 1127 (N). Laguna Oca Island: T. Rojas 12212 (N, N, S). Puentes Island: T. Meyer 10099 (N). CULTIVATED: Brazil: Barbosa da Silva 2 (Be--13382, N, W--2439590); Henz s.n. [Herb. Rambo 35351] (N, N); Moldenke & Moldenke 19630 (Es, Lg, N); Sakane 286 (N, Sp--131331). India: Herb. Monac. 3804 (Mu). Paraguay: Woolston 818 (N, S).

LIPPIA ALNIFOLIA Schau.

Additional bibliography: Buek, *Gen. Spec. Syn. Candoll.* 3: 265. 1858; Hocking, *Excerpt. Bot. A.10*: 271. 1966; Moldenke, *Phytologia* 13: 346. 1966; Moldenke, *Fifth Summ.* 1: 155 (1971) and 2: 541, 551, & 890. 1971.

Additional citations: BRAZIL: Minas Gerais: Martius s.n. [Jul. 1818] (Mu--3--type), s.n. [inter frutius M. Serra de Sincora] (Mu--4, 2).

LIPPIA AMERICANA L.

Additional & emended synonymy: Lippia pyramidata Crantz, *Inst. Rei Herb.* 1: 546. 1766. Lippia hemisphaeria Jacq. ex Moldenke, *Phytologia* 36: 44, in syn. 1977.

Additional & emended bibliography: Jacq., *Select. Stirp. Amer.*, imp. 1, 176--177, pl. 179, fig. 100. 1763; Crantz, *Inst. Rei Herb.* 1: 546. 1766; [Retz.], *Nom. Bot.* 155. 1772; J. F. Gmel. in L., *Syst. Nat.*, ed. 13, imp. 1, 2: 955 (1789) and ed. 13, imp. 2, 2: 955. 1796; H.B.K., *Nov. Gen. & Sp. Pl.*, ed. folio, 2: 216 (1817) and ed. quarto, 2: 267--268. 1818; Pers., *Sp. Pl.* 3: 352. 1819; Buek, *Gen. Spec. Syn. Candoll.* 3: 265 & 266. 1858; Barnhart, *Bull. Torrey Bot. Club* 29: 590. 1902; Britton & Br., *Illustr. Fl.*, ed. 2, imp. 1, 3: 97. 1913; Mayor, *Mem. Soc. Neuch. Sci. Nat.* 5: 490. 1913; Robledo, *Bot. Med.* 268. 1924; H. S. Jacks., *Mycologia* 24: 65. 1932; F. D. Kern, *Mycologia* 25: 449. 1933; Britton & Br., *Illustr. Fl.*, ed. 2, imp. 2, 3: 97. 1936; Cummins, *Lloydia* 3: 16 & 17. 1940; Britton & Br., *Illustr. Fl.*, ed. 2, imp. 3, 3: 97 (1943) and ed. 2, imp. 4, 3: 97. 1947; K. Jones, *Taxon* 9: 183. 1960; J. F. Macbr., *Field Mus. Publ. Bot.* 13 (5): 645 & 647--648. 1960; Troncoso in Cabrera, *Fl. Prov. Buenos Aires* 5: 145. 1965; Hocking, *Excerpt. Bot. A.10*: 271. 1966; Moldenke, *Phytologia* 14:

404. 1967; Anon., Ind. Bibliogr. Bot. Trop. 4 (1): 55. 1967; Puig, Bull. Soc. Hist. Nat. Toulouse 103: 310 & 319. 1967; Stegmaier, Fla. Ent. 50: 133--136. 1967; Stegmaier, Biol. Abstr. 48: 9701. 1967; R. R. Stewart, Pakist. Journ. Forest. 17: 515. 1967; Moldenke, Résumé Suppl. 16: 4 & 5. 1968; A. L. Moldenke, Phytologia 18: 122 & 123. 1969; Britton & Br., Illustr. Fl., ed. 2, imp. 5, 3: 97. 1970; Dennis, Kew Bull. Addit. Ser. 3: 177. 1970; Angely, Fl. Anal. & Fitogeogr. Est. S. Paulo, ed. 1, 4: 834 & xi. 1971; Moldenke, Fifth Summ. 1: 71, 91, 117, 136, & 142 (1971) and 2: 550, 552, 554, 556, 562, 564, & 890. 1971; Rouleau, Taxon Index Vols. 1-20, part 1: 216, 1972; Howard, Journ. Arnold Arb. 54: 458. 1973; Moldenke in Woodson, Schery, & al., Ann. Mo. Bot. Gard. 60: 67, 69--70, & 146. 1973; Troncoso, Darwiniana 18: 333, 334, 336, & 410, fig. 9. 1974; López-Palacios, Revist. Fac. Farm. Univ. Los Andes 15: 57 & 61. 1975; Soukup, Biota 11: 13 & 14. 1976; Moldenke, Phytologia 34: 256 (1976) and 36: 32, 33, & 44. 1977.

Additional illustrations: Jacq., Select. Stirp. Amer., imp. 1, pl. 179, fig. 100 (1763) and imp. 2, pl. 179, fig. 100. 1971; Troncoso, Darwiniana 18: 333, fig. 9. 1974.

Recent collectors describe this plant as a vine or vining shrub, or as an arching shrub or small tree, branching from a common base, 2--6 m. tall, with a stem diameter of 7.5--15 cm. at the base, the leaves opposite or 3-verticillate, growing on riverbanks and in limestone areas much cut over and browsed by animals, at 100--400 m., altitude, flowering in October and both flowering and fruiting from December to February. The corollas are said to have been "white" on P. H. Allen 4092, while on López-Palacios 3910 they were "blanquecina de garganta amarilla". López-Palacios also records the vernacular names, "guasgúin" and "indio viejo".

The Lippia floribunda H.B.K., as well as the homonyms credited to Humboldt & Bonpland, Humboldt & Kunth, and to Kunth, previously regarded as belonging to the synonymy of typical L. americana, have been shown to belong to that of L. schlimii var. glabrescens (Moldenke) Moldenke instead.

Macbride (1960) comments that "The Ecuadorian f. hypoides (Benth.) Mold....is possibly the Peruvian plant", citing Weberbauer 6013 & 6346 from Piura.

Cummins (1940) records the fungi, Prospodium lippiae (Speg.) Arth. and P. vungunteri (Mayor) Diet., as parasites on Lippia americana in Ecuador (based on Holway & Holway 807 and A. S. Hitchcock 20110) and Colombia (based on E. Mayor 368). However, the host of the Holway collection proves to represent f. pilosa Moldenke, while that of the Hitchcock collection is f. hypoides (Benth.) Moldenke.

The Angely (1971) work cited in the bibliography above is sometimes cited as "1970", the title-page date, but was not actually published until the next year. The H.B.K. reference dates have been authenticated by Barnhart (1902).

Material of L. americana has been misidentified and distributed in some herbaria as L. umbellata Cav. and as Lantana sp. On the other hand, the Asplund 15733, 15752, & 15879, previously cited by

me (1965) as typical L. americana and Valverde 425 so distributed, are actually f. hyptoides (Benth.) Moldenke, while P. H. Allen 4092, Burch, Oliver, & Robertson 1198 & 1248, Romero Castañeda 9382, Schimpff 1090 & 1124, Stern, Eyde, & Ayensu 1722, and Tyson 2729 are f. pilosa Moldenke and Herb. Schreber s.n. [ex Antillis?] is L. boliviana Rusby.

Additional citations: COLOMBIA: Magdalena: H. H. Smith 450 (Ld). Meta: López-Palacios 3910 (Ac, N). PUNA ISLAND: Eggers 14739 (Mu—3866).

LIPPIA AMERICANA f. HYPTOIDES (Benth.) Moldenke

Additional bibliography: Schau. in A.DC., Prodr. 11: 579. 1847; Buek, Gen. Spec. Syn. Candoll. 3: 266. 1858; J. F. Macbr., Field Mus. Publ. Bot. 13 (5): 648. 1960; Moldenke, Phytologia 13: 347. 1966; Moldenke, Résumé Suppl. 16: 5. 1968; Moldenke, Fifth Summ. 1: 136, 137, & 142 (1971) and 2: 556, 557, & 890. 1971; Soukup, Biota 11: 14. 1976; Moldenke, Phytologia 36: 32 & 33. 1977.

Asplund describes this plant as a shrub or climbing shrub, about 3 m. tall, with long subscandent branches, and found it growing in thickets and on shrubby hillsides, flowering and fruiting in March. Valverde refers to it as a shrub, 1.5 m. tall, the flowers whitish with an "aspecto verdusco", and encountered it from sealevel to 1200 m. altitude. Other collectors have reported it 1—5 m. tall "in dry scrub and forest vegetation" and in "sand and loam soil of fields", flowering in June. The corollas are described as having been "white" on Asplund 15752, Barclay 442, and Holm-Nielsen & al. 7198, "pale-green" on Asplund 15879, and "greenish-white" on Asplund 15733. Some of these collections were previously (1965) cited by me as typical L. americana L. but seem better placed as f. hyptoides. Macbride (1960) comments that the Peruvian population, exemplified by Weberbauer 6013 & 6346, "is possibly" this form. I feel that both this form and the typical form of the species exist in Peru. Some recently collected material has been misidentified and distributed in some herbaria as f. pilosa Moldenke.

Additional & emended citations: COLOMBIA: Antioquia: López-Palacios 4016 (Z). ECUADOR: El Oro: Asplund 15733 (Ld, N, S), 15752 (N, S, W—2652450). Guayas: Asplund 15879 (N, S); Valverde 425 (Ws). Manabi: Holm-Nielsen, Jeppesen, Løjtnant, & Øilgaard 7198 (N, S). PUNA ISLAND: G. W. Barclay 442 (W—2779683).

LIPPIA AMERICANA f. PILOSA Moldenke

Additional bibliography: Speg., Anal. Mus. Nac. Buenos Aires 6: 224 & 238. 1898; Holway, Bot. Gaz. 31: 335. 1901; Arth., N. Am. Fl. 7: 161. 1912; H. S. Jacks., Mycologia 24: 64—65. 1932; Moldenke, Phytologia 14: 404. 1967; Moldenke, Résumé Suppl. 16: 4. 1968; A. L. Moldenke, Phytologia 18: 122. 1969; Moldenke, Fifth Summ. 1: 91, 117, 124, & 136 (1971) and 2: 890. 1971; Mol-

denke in Woodson, Schery, & al., Ann. Mo. Bot. Gard. 60: 67. 1973; López-Palacios, Revist. Fac. Farm. Univ. Los Andes 15: 57. 1975; Moldenke, Phytologia 34: 256 (1976) and 36: 32. 1977.

Collectors describe this plant as a vine, an arching or vining shrub, or a small tree, 2--5 m. tall, branching from a common base, the stems about 3 inches in diameter, and have found it growing in thickets, at the edges of woods, along trails, on river banks, in deep wooded canyons, and on hills in limestone areas much cutover and browsed by animals, at altitudes of about 100 m., flowering in October and from December to February, fruiting in February. Allen refers to it as "common in brushy places". The corollas are said to have been "white" on Allen 4092, Aristeguieta 2058, and Burch, Oliver, & Robertson 1198 & 1248 and "whitish" on López-Palacios 3929.

Jackson (1932) records the fungus, Prospodium lippiae (Speg.) Arthur (1912), from this host, based on Holway & Holway 807, cited by me in a previous installment of these notes (1965). He lists as synonymys for the fungus Puccinia lippiae Speg. (1898), Uredo lippiae Speg. (1898), and U. lippiae Dietel & Holway (1901). The fungus also attacks Aloysia gratissima (Gill. & Hook.) Troncoso.

López-Palacios (1975) says "Sin embargo, el ejemplar de Mocquerys, existente en Caracas es Lippia americana f. pilosa Moldenke, al igual que el ejemplar de Washington (No. 2565773)". However, the Washington sheet 2383050, also an unnumbered Mocquerys collection from Duaca, collected in 1893--1894, is also a species of Cordia. He continues: "Quedan entonces para este taxon los registros de Lara (Smith V. 238; Mocquerys s.n., Duaca) y Zulia (Aristeguieta 2058 y Pittier 10541)".

Material of this form has been erroneously identified and distributed in some herbaria as L. hemisphaerica Jacq. and L. umbellata Cav. On the other hand, the López-Palacios 4016, distributed as f. pilosa, actually represents f. hyptoides (Benth.) Moldenke.

Additional & emended citations: PANAMA: Herrera: P. H. Allen 4092 (E--1597099, E--1784815); Burch, Oliver, & Robertson 1198 (E--1881983, W--2589464); Stern, Eyde, & Ayensu 1722 [wood spec. USW. 33585] (E--1835892, Mi, W--2490234). Los Santos: Burch, Oliver, & Robertson 1248 (E--1881975, W--2589494); Tyson 2729 (E--1870010). COLOMBIA: Bolívar: Romero Castañeda 9382 (N). Santander: López-Palacios 3929 (N, Z). VENEZUELA: Lara: Mocquerys s.n. [Duaca, 1893--94] in part (W--2565773). Zulia: Aristeguieta 2058 (N). EC-UADOR: Guayas: Schimpff 1090 (Mu), 1124 (Mu).

LIPPIA ANGUSTIFOLIA Cham.

Additional bibliography: Buek, Gen. Spec. Syn. Candoll. 3: 265. 1858; Angely, Fl. Anal. Paran., ed. 1, 575. 1965; Moldenke, Phytologia 14: 404. 1967; Angely, Fl. Anal. & Fitogeogr. Est. S. Paulo, ed. 1, 4: 835 & xi, map 1385. 1971; Moldenke, Fifth Summ. 1: 155, 186, & 198 (1971) and 2: 550, 555, 618, & 890. 1971; Troncoso,

Darwiniana 18: 340 & 410. 1974.

Recent collectors refer to this plant as an herb, 1 m. tall, and have encountered it on campos, in brejo near gallery forests, and "in standing water", flowering in March and December. The corollas are said to have been "yellow" on Hatschbach 25833 and Quarín & Schinini 1031 and "light-yellow" on Fiebrig 4024. Troncoso (1974) states that the species is found in "Paraguay, Brasil austral, Argentina: Misiones, Corrientes". The Angely (1971) reference in the bibliography above bears the erroneous date "1970" on its title-page.

Material of L. angustifolia has been misidentified and distributed in some herbaria as Verbena sp. On the other hand, the Fiebrig 4083 & 4773, distributed in some herbaria as L. angustifolia, actually are L. longepedunculata Kuntze.

Additional citations: BRAZIL: Paraná: Hatschbach 25833 (Ld). PARAGUAY: Fiebrig 4024 (Mu—4128); Hassler 8647 (Ws). ARGENTINA: Corrientes: Quarín & Schinini 1031 (Z).

LIPPIA ANTAICA Loes. & Moldenke

Additional bibliography: J. F. Macbr., Field Mus. Publ. Bot. 13 (5): 645 & 648. 1960; Moldenke, Phytologia 12: 85--86. 1965; Moldenke, Fifth Summ. 1: 142 (1971) and 2: 550 & 890. 1971; Soukup, Biota 11: 14. 1976.

Macbride (1960) cites only the type collection of this species.

LIPPIA ARBOREA Rojas, Cat. Hist. Nat. Corrient. 76. 1897 [not L. arborea Pavon, 1942, nor Sessé & Moc., 1940].

Bibliography: Rojas Acosta, Cat. Hist. Nat. Corrient. 76 & 172. 1897; Krapovickas, Bol. Soc. Argent. Bot. 11, Supl. 259. 1970; Heslop-Harrison, Ind. Kew. Suppl. 15: 80. 1974; Moldenke, Phytologia 31: 387. 1975.

The L. arborea of Pavon and of Sessé & Mociffo are synonyms of L. callicarpaefolia H.B.K. of Mexico and Guatemala. Although the exact identity of the Rojas taxon is not yet known, it can hardly have anything to do with the Mexican and Guatemalan plant.

LIPPIA ARECHAVALETAE Moldenke

Additional bibliography: Angely, Fl. Anal. Paran., ed. 1, 575. 1965; Moldenke, Phytologia 13: 347. 1966; Moldenke, Fifth Summ. 1: 155, 186, 189, & 198 (1971) and 2: 890. 1971; Moldenke, Phytologia 25: 229. 1973; Troncoso, Darwiniana 18: 340 & 410. 1974.

Recent collectors describe this species as a xylopodiferous erect herb, 1.25 m. tall, and have encountered it on "campo limpo" and in "brejo", flowering in January, September, and October. Lindeman and his associates found it on a "morro de arenito con chapada de basalto". The corollas are said to have been "yellow" on Hatschbach 26179, 30518, & 37527 and Lindeman & al. 8532. Troncoso (1974) asserts that its natural distribution is "Uruguay, Argentina: E. Ríos, Brasil aust."

The Pabst 6614 [Pereira 6788; Herb. Brad. 22516], distributed

as L. arechavaletae, seems actually to be L. campestris Moldenke.

Additional citations: BRAZIL: Mato Grosso: Hatschbach 26179 (Ld), 30518 (Ld). Paraná: Hatschbach 37527 (Ld). Rio Grande do Sul: Lindeman, Irgang, & Valls ICN.8532 (Ut—320452).

LIPPIA ARECHAVALETAE var. MICROPHYLLIA Moldenke

Additional bibliography: Moldenke, Phytologia 13: 347. 1966; Moldenke, Fifth Summ. 1: 155 (1971) and 2: 890. 1971.

LIPPIA ASPERRIMA Cham.

Additional bibliography: Buek, Gen. Spec. Syn. Candoll. 3: 265. 1858; Hieron., Bol. Acad. Nac. Cienc. Córdoba 4: [Sert. San Juan.] 405. 1881; R. C. Foster, Contrib. Gray Herb. 184: 170. 1958; Angely, Fl. Anal. Paran., ed. 1, 575. 1965; Moldenke, Phytologia 13: 347—348. 1966; Moldenke, Résumé Suppl. 16: 6. 1968; Angely, Fl. Anal. & Fitogeogr. Est. S. Paulo, ed. 1, 4: 835 & xi. 1971; Moldenke, Fifth Summ. 1: 155, 183, 186, 189, & 198 (1971) and 2: 551 & 890. 1971; Troncoso, Darwiniana 18: 334, 340, & 410. 1974; Moldenke, Phytologia 31: 387. 1975.

Recent collectors have encountered this plant in cerrado, among rocks, in dry sandy grasslands, and on campos associated with Pteridium aquilinum, at altitudes of 500—2000 m., flowering in January, February, April, October, and November. Morel 4498 is quite atypical. Hatschbach & Scherer 30403 is a mixture with L. turnerifolia Cham.

The corollas of L. asperima are said to have been "yellow" on Burkart 19566, Hatschbach 30785, Hatschbach & Scherer 30403, Meyer & Legname s.n., Morel 2730, Schinini, Quarín, Arbo, & Pire 10260, Rojas 12354, and Schwarz 783.

Angely (1971) records this species from Mato Grosso, São Paulo, Paraná, and Rio Grande do Sul. His work bears the title-page date "1970", but was not issued until 1971. Troncoso (1974) records the species from Brazil, Paraguay, Uruguay, and Argentina (Chaco, Corrientes, & Misiones) and cites Herter 82594 from Uruguay.

Material has been misidentified and distributed in some herbaria as L. morongii Kuntze, L. turnerifolia Cham., Lantana sp., and Verbena sp. On the other hand, the Herter 989 [Herb. Herter 82598] in at least some herbaria is L. morongii Kuntze, Herb. Anchieta 53437 (cited and distributed by Rambo as L. asperima) is actually L. turnerifolia Cham., while Herb. Anchieta 60323 is L. asperima var. rotundata Moldenke.

Additional citations: BRAZIL: Mato Grosso: Hatschbach & Scherer 30403 in part (M, W—2706682). Paraná: Hatschbach 30785 (Ld). Rio Grande do Sul: Bornmüller 206 (Mu—4270); Sehnem 3604 (B). BOLIVIA: Chiquisaca: Troll 60 (Mu). PARAGUAY: Hassler 2359 (Ws). URUGUAY: H. H. Bartlett 21030 (Mi). ARGENTINA: Chaco: Buratovich 157 (N), 179 (N); T. Rojas 12354 (N). Corrientes: Burkart 19566 (W—2567979); Ibarrola 853 (N), 2495 (N); Pedersen 9650 (N). Formosa:

Jörgensen 2631 (E-831893); I. Morel 785 (Ms--34156), 2730 (N), 3036 (N), 3635 (N), 3833 (N), 4353 (N), 4498 (N), 4708 (N), 4787 (N), 5851 (N), 6357 (N). Jujuy: Schinini, Quarín, Arbo, & Pire 10260 (Ld). Misiones: J. E. Montes 14726 (Au--271295, Ld, N); G. J. Schwarz 783 (N). Salta: Meyer & Legname s.n. [13-I-1969] (N). Santa Fé: Hubrich s.n. [Rosario de Sa. Fé] (Mu).

LIPPIA ASPERRIMA var. **LONGIPEDUNCULATA** Moldenke

Additional bibliography: Moldenke, *Phytologia* 13: 348 (1966) and 14: 410. 1967; Moldenke, *Fifth Summ.* 1: 186, 189, & 198 (1971) and 2: 890. 1971.

Tressens and his associates describe the corollas of this plant as "yellow & orange". Material has been misidentified and distributed in some herbaria as L. villafloridana Kuntze.

Additional citations: ARGENTINA: Corrientes: Tressens, Benítez, Bissio, Cristóbal, Fernández, Mroginski, Pire, & Pueyo 200 (Z).

LIPPIA ASPERRIMA var. **ROTUNDATA** Moldenke

Additional bibliography: Angely, *Fl. Anal. Paran.*, ed. 1, 575. 1965; Moldenke, *Phytologia* 12: 93--94. 1965; Moldenke, *Résumé Suppl.* 16: 6. 1968; Moldenke, *Fifth Summ.* 1: 155 & 198 (1971) and 2: 890. 1971.

Material of this variety has been misidentified and distributed in some herbaria as typical L. asperima Cham. and the Herb. Anchieta 60323, cited below, is so cited by Rambo (1965).

Additional citations: BRAZIL: Rio Grande do Sul: Rambo Herb. Anchieta 60323 (B).

LIPPIA BAHIENSIS Moldenke, *Phytologia* 31: 229--230. 1975.

Bibliography: Moldenke, *Phytologia* 31: 229--230 & 384. 1975.

Collectors have encountered this plant on dry hillsides with white metamorphic crumbling rock (talc?) with low trees and shrubs and some cerrado in the valleys, at an altitude of 1000 m., flowering in January. They describe it as a slender ascending or decumbent herb, the corollas "purple" when fresh.

Citations: BRAZIL: Bahia: Harley, Renvoise, Erskine, Brighton, & Pinheiro in Harley 15027 (Z--type), 15137a (K).

LIPPIA BALANSAE Briq.

Additional synonymy: Lantana lilacina Chod. ex Briq. in Chod. & Hassl., *Pl. Hassler.* 2: 490, in syn. 1904 [not L. lilacina Desf., 1829, nor Desv., 1902, nor H.B.K., 1902, nor Mart. & Gal., 1959].

Additional bibliography: Briq. in Chod. & Hassl., *Bull. Herb. Boiss.*, ser. 2, 4: 1154. 1904; Moldenke, *Phytologia* 14: 404. 1967; Moldenke, *Résumé Suppl.* 16: 6. 1968; Moldenke, *Fifth Summ.* 1: 155 & 186 (1971) and 2: 540, 552, 557, & 890. 1971; Troncoso, *Darwiniana* 18: 338 & 410. 1974; Moldenke, *Phytologia* 36: 34. 1977.

Recent collectors describe this plant as an herb, to 2 m. tall, or a shrub, 1.7 m. tall, growing on inundated (varzea) land, in "capoeira", and along roadsides "in campo where sods have been cut", and have found it in flower and fruit in April and May. The corollas are said to have been "violet" in color on Schinini 9090, "lilac" on Hatschbach 38696, "white-lilac" on Schinini 9132, and "purple (5P 5/6)" on Lindeman & Haas 2472. On the last-mentioned collection the lowest leaves are broadly 3-lobed!

The Lantana lilacina accredited to Desfontaines, to Desvaux, and to Humboldt, Bonpland, & Kunth, referred to in the synonymy above, belong to the synonymy of Lantana fucata Lindl., while that of Martens & Galeotti is L. trifolia L.

Additional citations: BRAZIL: Mato Grosso: Hatschbach 38696 (Ld). Paraná: Hatschbach 12952 (Ld); Lindeman & Haas 2472 (Ld). PARAGUAY: Krapovickas & Cristóbal 13260 (Ld); T. Rojas 4893 (Mu); Schinini 9090 (Ld), 9132 (Ld).

LIPPIA BAUMII Gürke

Additional bibliography: Moldenke, *Phytologia* 13: 348. 1966; Richards & Morony, Check List Fl. Mbala 238. 1969; Moldenke, Fifth Summ. 1: 237, 241, 244, & 254 (1971) and 2: 551 & 890. 1971.

Richards & Morony (1969) cite M.R.4183 & 8014, collected at the edge of "dambo" and in sandy soil among rocks, at altitudes of 5000--5800 feet.

Additional citations: NAMIBIA: Baum 515 (Mu--3916--isotype).

LIPPIA BELIATULA Moldenke

Additional bibliography: Buek, Gen. Spec. Syn. Candoll. 3: 265. 1858; Schubert, Assoc. Trop. Biol. Bull. 4: 73. 1965; J. A. Clarke, Card-Ind. Gen. Sp. & Var. Pl. issue 245. 1965; Moldenke, *Phytologia* 13: 348. 1966; G. Taylor, Ind. Kew. Suppl. 14: 79. 1970; Moldenke, Fifth Summ. 1: 155 (1971) and 2: 551 & 890. 1971.

Recent collectors describe this plant as a shrub, 1--1.5 m. tall, or an herb, to 20 cm. tall, and have encountered it in cerrado on slopes, in cut-over semi-deciduous forests on slopes, and on dry hillsides with white metamorphic crumbling rock (talca?) with low trees and shrubs and some cerrado in the valleys, at an altitude of about 1000 m., flowering in January and February. The corollas are said to have been "pale-purple" on Harley 15137, "pink, throat yellow" on Irwin, Harley, & Smith 30955, and "lavender-pink, the throat red, aging to red-violet" on Irwin, Harley, & Smith 30800.

Additional citations: BRAZIL: Bahia: Harley, Renvoize, Erskine, Brighton, & Pinheiro in Harley 15137 (K); Irwin, Harley, & Smith 30800 (N, Z), 30955 (Ld, N, W--2709297); Martius 1983 [Macbride photos 20322] (Mu--19--type).

LIPPIA BOCAINENSIS Glaz.

Additional bibliography: Moldenke, *Phytologia* 12: 99. 1965; Angely, Fl. Anal. & Fitogeogr. Est. S. Paulo, ed. 1, 4: 835. 1971;

Moldenke, Fifth Summ. 1: 155 (1971) and 2: 890. 1971.

LIPPIA BOLIVIANA Rusby

Additional bibliography: R. C. Foster, Contrib. Gray Herb. 184: 170. 1958; J. F. Macbr., Field Mus. Publ. Bot. 13 (5): 649 & 650. 1960; Hocking, Excerpt. Bot. A.12: 336. 1967; Moldenke, Phytologia 14: 404. 1967; Moldenke, Résumé Suppl. 15: 5. 1967; Moldenke, Biol. Abstr. 49: 1321. 1968; Moldenke, Fifth Summ. 1: 142, 183, & 198 (1971) and 2: 890. 1971; Troncoso, Darwiniana 18: 334, 338, & 410. 1974; Soukup, Biota 11: 14. 1976.

Troncoso (1974) cites Hjerting & al. 394 from Salta, Argentina, deposited in the San Isidro herbarium.

Two specimens in Munich from the Schreber herbarium, inscribed as "ex Antillis?" on their labels and misidentified as L. americana L., seem to be L. boliviana instead, while the Martius and Herb. Zuccarini s.n. [Mexico? Brasilia?] specimens from Minas Gerais in the same Munich herbarium are mixtures with Aloysia sellowii (Briq.) Moldenke.

Additional citations: PERU: Province undetermined: Haenke s.n. (Mu—7). BRAZIL: Minas Gerais: Martius s.n. [in campis editis Minarum occidentalium (Sertão) Augusto] (Mu—58, Mu). BOLIVIA: Cochabamba: M. Bang 979 (E—116717—isotype); Troll 1391 (Mu). Potosí: Fiebrig 3111 (Mu—4073). LOCALITY OF COLLECTION UNDETERMINED: Herb. Schreber s.n. [ex Antillis?] (Mu—5, Mu—6); Herb. Zuccarini s.n. [Mexico? Brasilia?] (Mu—59).

LIPPIA BOLIVIANA var. **ANGUSTA** Moldenke

Additional bibliography: Moldenke, Phytologia 14: 404. 1967; Hocking, Excerpt. Bot. A.12: 336. 1967; Moldenke, Résumé Suppl. 15: 5. 1967; Moldenke, Biol. 49: 1321. 1968; Moldenke, Fifth Summ. 1: 183 (1971) and 2: 890. 1971.

The leaves on the United States National Herbarium isotype of this variety are definitely ternate.

Additional citations: BOLIVIA: Cochabamba: R. F. Steinbach 191 (N—isotype, W—2533170—isotype).

LIPPIA BOTHRIOURA Briq.

Additional bibliography: Moldenke, Phytologia 13: 348. 1966; Moldenke, Fifth Summ. 1: 186 & 189 (1971) and 2: 890. 1971.

LIPPIA BRACTEATA Carr.

Additional bibliography: Moldenke, Phytologia 13: 348. 1966; Moldenke, Fifth Summ. 1: 366 (1971) and 2: 551 & 890. 1971.

LIPPIA BRACTEOSA (Mart. & Gal.) Moldenke

Additional bibliography: Schau. in A.DC., Prodr. 11: 608. 1847; Buek, Gen. Spec. Syn. Candoll. 3: 252. 1858; Moldenke, Phytologia 14: 404. 1967; Moldenke, Fifth Summ. 1: 71 (1971) and 2: 536, 551, 562, & 890. 1971.

[to be continued]